APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER
KIM, PAUL

ART UNIT	PAPER NUMBER
2161	

DATE MAILED: 01/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>11 July 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-37</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-37</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>11 July 2003</u> is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

SAM RIMELL
PRIMARY EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date <u>6</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____ .

DETAILED ACTION

1.   This action is responsive to the following communication: Original Application

filed on July 11, 2003, claiming priority to Provisional application No. 60/449/154, filed

on February 20, 2003.

2.   Claims 1-37 are pending. Claims 1, 11, 20, and 29 and independent.

Drawings

3.   The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because

they include the following reference character(s) not mentioned in the description:

- Figure 1, Element 110 – "Application"
- Figure 3, Element 300 – "Application"
- Figure 3, Elements 312, 314, and 316 – "Repository"
- Figure 8, Element 800
- Figure 9, Element 900
- Figure 10, Element 1000

Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to

the specification to add the reference character(s) in the description in compliance with

37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the

application. Any amended replacement drawing sheet should include all of the figures

appearing on the immediate prior version of the sheet, even if only one figure is being

amended. Each drawing sheet submitted after the filing date of an application must be

labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37

CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

notified and informed of any required corrective action in the next Office action. The

objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 101

4.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5.   **Claims 10-16 and 28-37** are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

6.   Regarding **claims 20-26 and 28**, claims 20-26 and 28 are rejected accordingly under 35 U.S.C. 101 for failing to claim patentable subject matter. The claims recite a "machine readable medium" which carries a broader scope than a "transmission medium" as found in claims 28-37, which are rejected below.

7.   Regarding **claims 29-37**, a computer data signal embodied in a transmission medium does not fall within any of the categories of patentable subject matter set forth in 35 U.S.C. 101. Under O'Reilly v. Morse, 56 U.S. 62, claims that recite nothing but the physical characteristics of a form of energy, such as frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena.

A claimed signal is clearly not a "process" under 35 U.S.C. 101 because it is not a series of steps. A claimed signal has no physical structure, does not itself perform any useful, concrete and tangible result and, thus, does not fit within the definition of a machine. A claimed signal is not matter, but a form of energy, and therefore is not a composition of matter. And lastly, because a signal lacks physical substance and is not a residual class of product, a claimed signal does not fall within the definitions of

manufacture. Therefore, a claimed signal does not constitute patentable subject matter as

set forth in 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

8.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9.   **Claims 1-8, 11-17, 20-26, and 29-35** are rejected under 35 U.S.C. 102(e) as being

anticipated by Kikuchi et al (U.S. Patent No. 6,457,007, hereinafter referred to as

KIKUCHI), filed on August 5, 1994, and issued on September 24, 2002.

10.   Regarding **independent claim 1**, KIKUCHI teaches:

> A method of searching a plurality of content repositories, comprising:
>
>   providing for the representation of the plurality of content repositories as a virtual content repository (VCR) *{See KIKUCHI, col. 3, 34-37, wherein this reads over "a logical database in which at least one database among physical databases . . . is grouped beforehand"; and col. 8, line 66 – col. 9, line 8, wherein this reads over "a plurality of physical databases 1 are combined so as to form logical databases 4 (LBD_A, LBD_B)"}*;
>
>   searching the VCR for information that satisfies a search expression *{See KIKUCHI, col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases"}*;
>
>   providing search results *{See KIKUCHI, col. 13, lines 20-26, wherein this reads over "a general-purpose interactive database application program . . . for indicating the search result often includes a function"}*; and

wherein the VCR includes a common content model *{See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LDB_A consists of physical databases DB_a and DB_b . . . . The physical databases 1 in this embodiment store and manage a plurality of tables"}* and namespace *{See KIKUCHI, col. 14, lines 6-9, wherein this reads over "descriptor DATABASE means that the name described behind the descriptor DATABASE is a name of the physical databases 1 constituting the logical database to be defined"}*.

11.   Regarding **dependent claim 2**, KIKUCHI teaches:

        The method of claim 1 wherein: each one of the plurality of content repositories implements a service provider interface (SPI) compatible with the VCR *{See KIKUCHI, Figure 1, Element 5; and col. 9, lines 21-48, wherein "the database interface unit 5" reads on "service provider interface" as best understood by the Office}*.

12.   Regarding **dependent claims 3, 12, 21, and 30**, KIKUCHI teaches:

        The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCR includes: searching each of the plurality of content repositories *{See KIKUCHI, Figures 5, 20, and 22; and col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases and instructs to update or search each database"}*.

13.   Regarding **dependent claims 4, 13, 22, and 31**, KIKUCHI teaches:

        The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein: the search expression can include at least one of: a logical expression, a Boolean operator, a nested expression, an object name, a function/method call, a mathematical function, a mathematical operator, a string operator, an image operator, and Structured Query Language (SQL) *{See KIKUCHI, col. 12, lines 26-27, wherein this reads over "an SQL statement is used as a database access statement"}*.

14.   Regarding **dependent claims 5, 14, 23, and 32**, KIKUCHI teaches:

        The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein providing search results includes:

        combining the results of searching each one of the plurality of content repositories *{See KIKUCHI, Figure 35; and column 49, lines 47-61, wherein this*

reads over "the table location searching unit 7 in this Embodiment 1 combines the processing results"}.

15.   Regarding **dependent claims 6, 15, 24, and 33**, KIKUCHI teaches:

      The method of claim 1 (also a machine readable medium and a computer data signal comprising of a code segment) wherein providing search results includes:

      caching the search results *{See KIKUCHI, Figure 35; and col. 49, lines 30-35, wherein this reads over "the table location searching unit 7 in this Embodiment 11 stores the informed processing result in the SELECT statement result storage area"}.*

16.   Regarding **dependent claims 7, 16, 25, and 34**, KIKUCHI teaches:

      The method of claim 1 wherein providing for the representation of the plurality of content repositories as a VCR includes:

      extending the content model to include information in the plurality of content repositories *{See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LDB_A consists of physical databases DB_a and DB_b . . . . The physical databases 1 in this embodiment store and manage a plurality of tables"}; and*

      wherein the namespace spans the plurality of content repositories *{See KIKUCHI, col. 14, lines 6-9, wherein this reads over "descriptor DATABASE means that the name described behind the descriptor DATABASE is a name of the physical databases 1 constituting the logical database to be defined"}.*

17.   Regarding **dependent claims 8, 17, 26, and 35**, KIKUCHI teaches:

      The method of claim 7 wherein: the content model provides a uniform representation of content for the plurality of content repositories *{See KIKUCHI, Fig 1, Element 4; and col. 9, lines 1-8, wherein this reads over "[t]he logical database LDB_A consists of physical databases DB_a and DB_b . . . . The physical databases 1 in this embodiment store and manage a plurality of tables"}.*

18.   Regarding **independent claims 11, 20, and 29**, KIKUCHI teaches:

      A method (also a machine readable medium and a computer data signal comprising of a code segment) of searching a plurality of content repositories, comprising:

> providing for the representation of the plurality of content repositories as a virtual content repository (VCR) *{See KIKUCHI, col. 3, 34-37, wherein this reads over "a logical database in which at least one database among physical databases . . . is grouped beforehand"; and col. 8, line 66 – col. 9, line 8, wherein this reads over "a plurality of physical databases 1 are combined so as to form logical databases 4 (LBD_A, LBD_B)"}*;

> searching the VCR for information that satisfies a search expression *{See KIKUCHI, col. 8, lines 37-40, wherein this reads over "an application program execution means 2 for executing the application program for updating or searching the databases"}*;

> providing search results *{See KIKUCHI, col. 13, lines 20-26, wherein this reads over "a general-purpose interactive database application program . . . for indicating the search result often includes a function"}*; and

> wherein each one of the plurality of content repositories implements a service provider interface (SPI) compatible with the VCR *{See KIKUCHI, Figure 1, Element 5; and col. 9, lines 21-48, wherein "the database interface unit 5" reads on "service provider interface" as best understood by the Office}*.

Claim Rejections - 35 USC § 103

19.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

20.   **Claims 9-10, 18-19, 27-28, and 36-37** are rejected under 35 U.S.C. 103(a) as being unpatentable over KIKUCHI, in view of Weinreb et al (U.S. Patent No. 5,426,747, hereinafter referred to as WEINREB), filed on March 22, 1991, and issued on June 20, 1995.

KIKUCHI teaches the limitations of claims 1-8, 11-17, 20-26, and 29-35 for the reasons stated above.

KIKUCHI differs from the claimed invention in that KIKUCHI fails to teach a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein the VCR includes a set of content information and a set of schema information (claims 9, 18, 27, and 36).

KIKUCHI differs from the claimed invention in that KIKUCHI fails to teach a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCT for information includes searching the set of content information and the set of schema information (claims 10, 19, 28, and 37).

21.   Regarding **dependent claims 9, 18, 27, and 36**, KIKUCHI, in combination with WEINREB, discloses a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein the VCR includes a set of content information *{See WEINREB, col. 4, lines 32-36, wherein this reads over "both the data segment and corresponding information segment"}* and a set of schema information *{See WEINREB, col. 4, lines 24-36, wherein this reads over "[e]ach database has a 'schema' associated therewith, the schema containing an entry for each object type present in the database"}*.

The combination of inventions disclosed in KIKUCHI and WEINREB would disclose an invention which comprised of a VCR which included a set of content information and a set of schema information such that the VCR may be searched for information that satisfied a search expression. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by KIKUCHI by combining it with the invention disclosed by WEINREB.

One of ordinary skill in the art would have been motivated to do this modification so that the set of content information and the set of schema information may be used and applied accordingly in the search of the plurality of content repositories.

22.   Regarding **dependent claims 10, 19, 28, and 37,** KIKUCHI, in combination with WEINREB, discloses a method (also a machine readable medium and a computer data signal comprising of a code segment) wherein searching the VCR for information includes searching the set of content information *{See WEINREB, col. 12, lines 30-34, wherein this reads over "the persistent relocation map 150 of the information segment 78 corresponding to the data segment 76 containing this page is searched for an entry corresponding to this address"}* and the set of schema information *{See WEINREB, col. 9, lines 44-47, wherein this reads over "the VMMDB can use the type code to search schema"}.*

The combination of inventions disclosed in KIKUCHI and WEINREB would disclose an invention which comprised of searching the set of content information and the set of schema information. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above invention suggested by KIKUCHI by combining it with the invention disclosed by WEINREB.

One of ordinary skill in the art would have been motivated to do this modification so that the set of content information and the set of schema information may be used in searching the virtual content repository, and effectively the plurality of content repositories, for information that satisfied the search expression.

Conclusion

23.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Kim whose telephone number is (571) 272-2737. The examiner can normally be reached on M-F, 9am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Safet Metjahic can be reached on (571) 272-4023. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

SAM RIMELL
PRIMARY EXAMINER